# LH-N007 2R scanner

# User Manual

LEAHUA 广州丽华舞台灯光音响有限公司
GZ LEAHUA LIGHT LIMITED

This manual contains important information.
Please read before operating fixture.

Add：A1 Building The Sixth Industrial Zone Zhu Gang Road Hongxing Shijing Town Baiyun District Guangzhou China.
Tel：+86 020-66292177 Fax：+86 020-66292177

# 1 SECURITY TIPS

**WARNING!!! To reduce the risk of fire, electric shock, or injury to persons, follow these important safety instructions:**

- non-professionals, not to disassemble the light arbitrarily and lighting accessories inside.
- rated voltage range: AC110V-120V/60Hz or AC200V-240V / 50HZ (to be selected).
- not beam irradiate the flammable materials, flammable materials and the lamp should be maintained at least 1M over the distance.
- lamps used in ambient temperature: -15 ℃ -40 ℃, the highest temperature of the surface of the lamp: 60 ℃.
- to keep away from the liquid substance and humid environment.
- before using the lights must ensure the good grounding, can not install charging and remove any parts.
- the installation of lamps, must be fixed screw fasteners with additional security cable and regular inspection.
- lamps consecutive working hours is not recommended more than 10 hours.
- should stop using the lights in time when happens unusual conditions during the process
- lamp parts of the rotation, external accessories and paste parts should be regular inspected, such as the emergence of loose and rock, should be reinforced in a timely manner to prevent the accident.
- lamps adopt strong winds to refrigerate, it is easy to accumulate the dust, so you have to clean it weekly especially the cooling air opening, otherwise the dust will plug leading to poor light

# 2 Features :

Multi Effect Luminaire, Beam, Scanner, Laser Simulator
MSD 2R Lamp
3 °Precision Beam
3 Facet Rotating Prism
Liquid Sky, Laser Wave and Cone Effects
X / Y and Z High-Speed Mirror System
(14) Dichroic Colors + White
(17) Static Gobos

# 3 TECHNOLOGY REFERENCE

**SOURCE**
MSD 2R Lamp
6,000 Hour Average Life
Beam angle : $3^0$
**EFFECTS**
Strobe
Electronic Dimmer
3 Facet Rotating Prism
Multiple Pattern Macros
**COLOR**
14 Dichroic Colors + White
**GOBOS**
17 Gobos + Open
**CONTROL / CONNECTIONS**
3 DMX Channel Modes (16 /17 / 21)
4 Button Control Panel
3 pin DMX In/Out
powerCON In/Out
**SIZE / WEIGHT**
Size : 358mm*268mm*197mm

N.W : 8kg

**ELECTRICAL / THERMAL**

AC 100-240V - 50/60Hz

Power : 220W

Temperature -7℃ -- 40℃

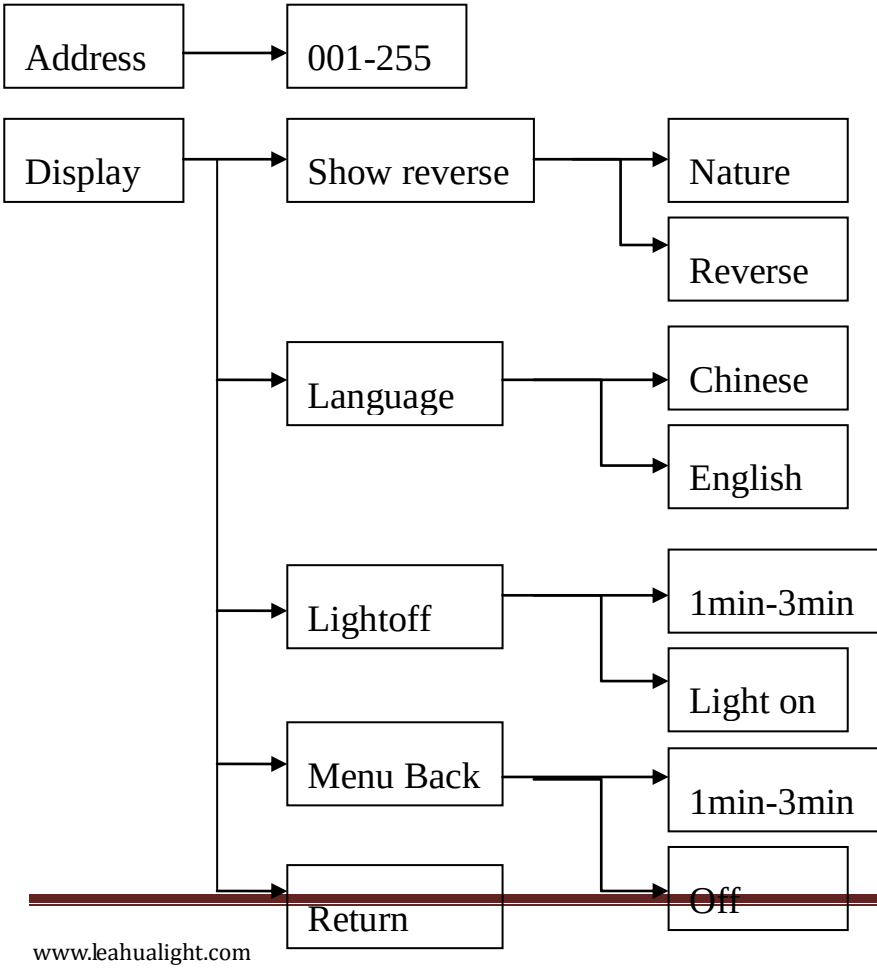
**APPROVALS / RATINGS**

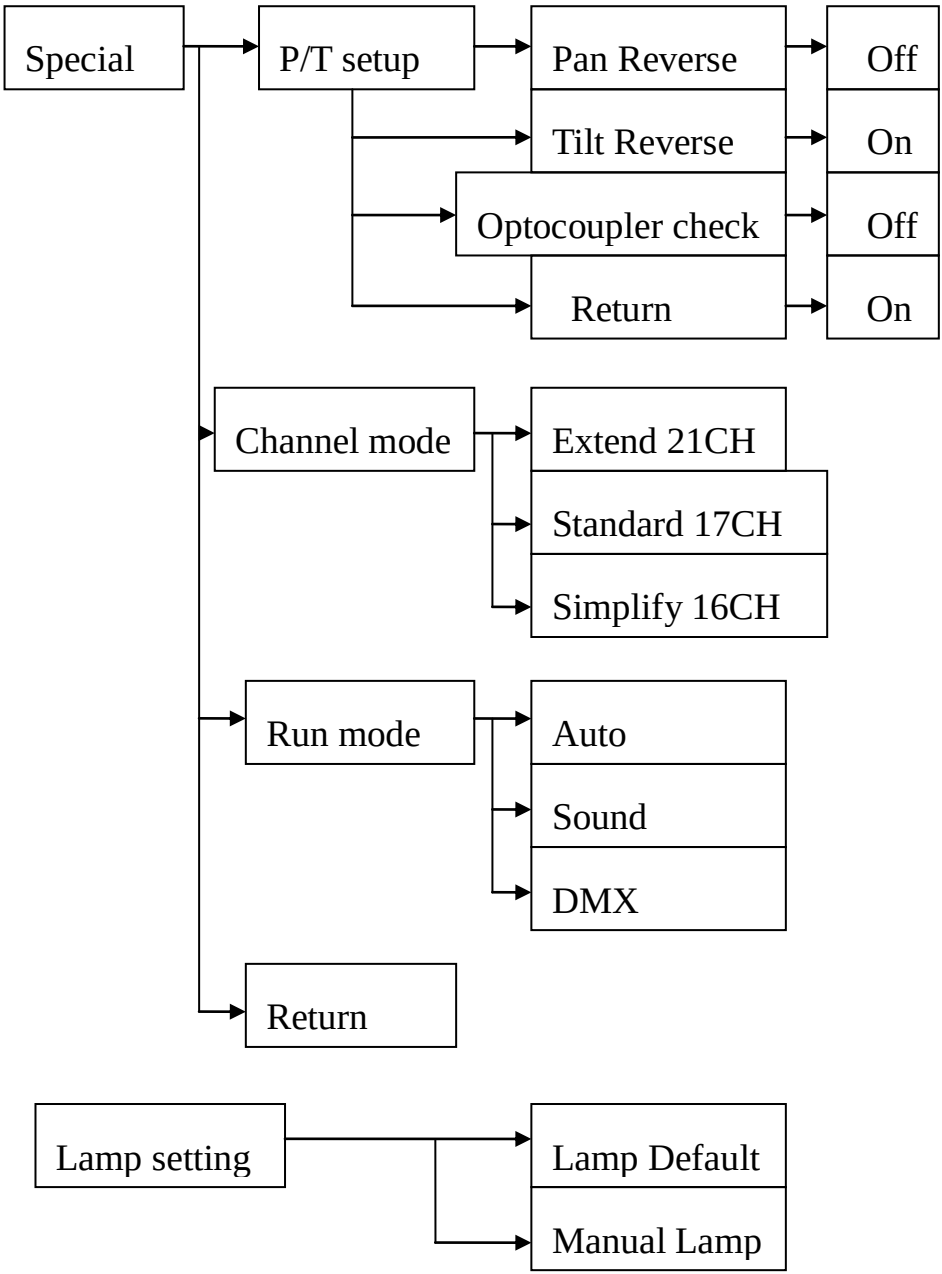
CE and RoHS

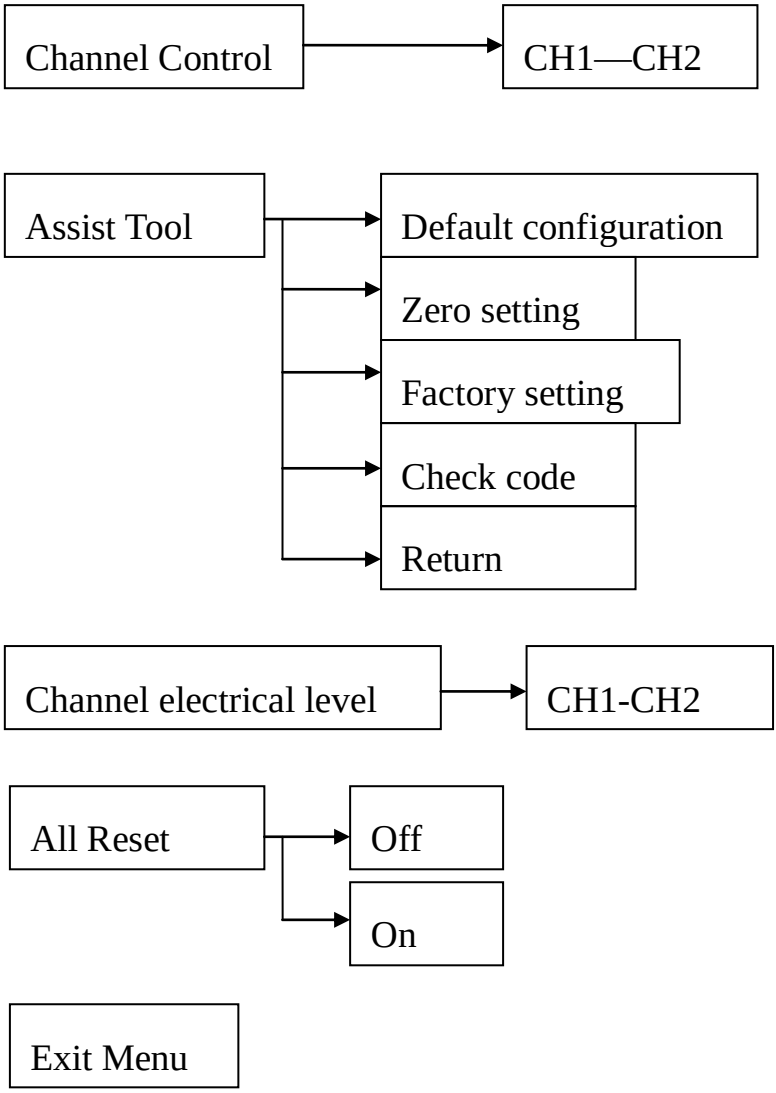
IP20

# 4 Board Instruction

**Menu :**




Special
P/T setup
Pan Reverse
Off
Tilt Reverse
On
Optocoupler check
Off
Return
On
Channel mode
Extend 21CH
Standard 17CH
Simplify 16CH
Run mode
Auto
Sound
DMX
Return
Lamp setting
Lamp Default
Manual Lamp


Channel Control
CH1—CH2
Assist Tool
Default configuration
Zero setting
Factory setting
Check code
Return
Channel electrical level
CH1-CH2
All Reset
Off
On
Exit Menu

# 5 DMX CHANNEL SHEET

## Standard 17Ch / Simplify 16CH

| Channel | | Value | Function |
|---|---|---|---|
| 17CH | 16CH | | |
| 1 | 1 | | **PAN & PAN FINE** |
| | | 0-127 | Pan Movement |
| | | 128-255 | Pan movement Fine |
| 2 | 2 | | **TILT & TILT FINE** |
| | | 0-127 | Tilt Movement |
| | | 128-255 | Tilt movement Fine |
| 3 | 3 | | **PAN Speed** |
| | | 0-7 | No function |
| | | 8-255 | Pan shaking movement slow to fast |
| 4 | 4 | | **Tilt Speed** |
| | | 0-7 | No function |
| | | 8-255 | Tilt shaking movement slow to fast |
| 5 | 5 | | **Color** |
| | | 0-2 | White |
| | | 3-4 | White+color1 |
| | | 5-6 | Color 1 |
| | | 7-9 | Color 1+Color 2 |
| | | 10-11 | Color 2 |
| | | 12-13 | Color 2+Color 3 |
| | | 14-15 | Color 3 |
| | | 16-18 | Color 3+Color 4 |
| | | 19-20 | Color 4 |
| | | 21-22 | Color 4+Color 5 |
| | | 23-24 | Color5 |
| | | 25-27 | Color 5+Color 6 |
| | | 28-29 | Color 6 |
| | | 30-31 | Color 6+Color 7 |

| | | | |
|---|---|---|---|
| | | 32-33 | Color 7 |
| | | 34-36 | Color 7+Color 8 |
| | | 37-38 | Color 8 |
| | | 39-40 | Color 8+Color 9 |
| | | 41-43 | Color 9 |
| | | 44-45 | Color 9+Color 10 |
| | | 46-47 | Color 10 |
| | | 48-49 | Color 10+Color 11 |
| | | 50-52 | Color 11 |
| | | 53-54 | Color 11+Color 12 |
| | | 55-56 | Color 12 |
| | | 57-58 | Color 12+Color 13 |
| | | 59-61 | Color 13 |
| | | 62-63 | Color 13+Color 14 |
| | | 64-65 | Color 14 |
| | | 66-67 | Color 14+White |
| | | 68-128 | Color Wheel Index - WHITE to CONGO BLUE |
| | | 129-190 | *Clockwise Color Rotation from FAST to SLOW |
| | | 191-193 | STOP |
| | | 194-255 | *Counterclockwise Color Rotation from SLOW to FAST |
| 6 | 6 | | **GOBOS** |
| | | 0-7 | OPEN |
| | | 8-14 | Gobo1 |
| | | 15-22 | Gobo2 |
| | | 23-29 | Gobo3 |
| | | 30-37 | Gobo4 |
| | | 38-44 | Gobo5 |
| | | 45-52 | Gobo6 |

| | | | |
|---|---|---|---|
| | | 53-59 | Gobo7 |
| | | 60-67 | Gobo8 |
| | | 68-74 | Gobo9 |
| | | 75-82 | Gobo10 |
| | | 83-89 | Gobo11 |
| | | 90-97 | Gobo12 |
| | | 98-104 | Gobo13 |
| | | 105-112 | Gobo14 |
| | | 113-119 | Gobo15 |
| | | 120-126 | Gobo16 |
| | | 127-133 | Gobo17 |
| | | 134-194 | *Clockwise Gobo Wheel Rotation From FAST to SLOW |
| | | 195-255 | *Counterclockwise Gobo Wheel Rotation From SLOW to FAST |
| 7 | 7 | | **PATTERN MACROS** |
| | | 0-8 | OFF |
| | | 9-16 | Pattern Macro 1 |
| | | 17-25 | Pattern Macro 2 |
| | | 26-33 | Pattern Macro 3 |
| | | 34-42 | Pattern Macro 4 |
| | | 43-50 | Pattern Macro 5 |
| | | 51-59 | Pattern Macro 6 |
| | | 60-67 | Pattern Macro 7 |
| | | 68-76 | Pattern Macro 8 |
| | | 77-84 | Pattern Macro 9 |
| | | 85-93 | Pattern Macro 10 |
| | | 94-101 | Pattern Macro 11 |
| | | 102-110 | Pattern Macro 12 |
| | | 111-118 | Pattern Macro 13 |
| | | 119-127 | Pattern Macro 14 |

| | | | |
|---|---|---|---|
| | | 128-135 | Pattern Macro 15 |
| | | 136-144 | Pattern Macro 16 |
| | | 145-152 | Pattern Macro 17 |
| | | 153-161 | Pattern Macro 18 |
| | | 162-169 | Pattern Macro 19 |
| | | 170-178 | Pattern Macro 20 |
| | | 179-186 | Pattern Macro 21 |
| | | 187-195 | Pattern Macro 22 |
| | | 196-203 | Pattern Macro 23 |
| | | 204-212 | Pattern Macro 24 |
| | | 213-220 | Pattern Macro 25 |
| | | 221-229 | Pattern Macro 26 |
| | | 230-237 | Pattern Macro 27 |
| | | 238-246 | Pattern Macro 28 |
| | | 247-255 | Pattern Macro 29 |
| 8 | 8 | | **PATTERN ROTATION - *CLOCKWISE / *COUNTERCLOCKWISE** |
| | | 0-9 | Stop |
| | | 10-120 | *Clockwise Pattern Rotation from FAST to SLOW |
| | | 121-134 | Stop |
| | | 135-245 | *Counterclockwise Pattern Rotation from SLOW to FAST |
| | | 246-255 | Stop |
| 9 | 9 | | **PATTERN ROTATION - *HORIZONTAL / *VERTICAL** |
| | | 0-9 | Stop |
| | | 10-120 | *Horizontal Pattern Rotation from FAST to SLOW |
| | | 121-134 | Stop |
| | | 135-245 | *Vertical Pattern Rotation from SLOW to |

| | | | |
|---|---|---|---|
| | | | FAST |
| | | 246-255 | Stop |
| 10 | | | **PATTERN ZOOM** |
| | | 0-127 | Pattern ZOOM Manual |
| | | 128-255 | Pattern ZOOM SLOW to FAST |
| 11 | 10 | | **PATTERN SCAN *CLOCKWISE MOVEMENT** |
| | | 0-9 | Stop |
| | | 10-120 | *Clockwise Pattern move to left |
| | | 121-144 | Stop |
| | | 145-255 | *Clockwise Pattern move to right |
| 12 | 11 | | **PATTERN SCAN *COUNTERCLOCKWISE MOVEMENT** |
| | | 0-9 | Stop |
| | | 10-120 | ***** Counterclockwise Pattern move to left |
| | | 121-144 | Stop |
| | | 145-255 | * Counterclockwise Pattern move to right |
| 13 | **12** | | **PATTERN SCAN** |
| | | 0-127 | 0° to 360° |
| | | 128-191 | *Clockwise Rotation FAST to SLOW |
| | | 192-255 | *Counterclockwise Rotation SLOW to FAST |
| 14 | | | **SHAKE** |
| | | 0-7 | Stop |
| | | 8-255 | Shaking speed from slow to fast |
| 15 | 13 | | **PRISM / PRISM ROTATION** |
| | | 0-127 | PRISM Indexing |
| | | 128-191 | *Clockwise PRISM Rotation FAST to SLOW |
| | | 192-255 | *Counterclockwise PRISM Rotation SLOW to FAST |

| | | | |
|---|---|---|---|
| 16 | 14 | | **DIMMER** |
| | | 0-255 | 0-100% dimmer |
| 17 | 15 | | **SHUTTER, STROBE** |
| | | 0-7 | No function |
| | | 8-255 | Strobe from slow to fast |
| 17 | 16 | | **FUNCTIONS** |
| | | 0-39 | No function |
| | | 40-59 | Lamp On |
| | | 60-79 | Lamp Off |
| | | 80-89 | ALL MOTORS Reset |
| | | 90-99 | PAN / TILT Motors Reset |
| | | 100-109 | COLOR Motor Reset |
| | | 110-119 | GOBO Motor Reset |
| | | 120-129 | SHUTTER & DIMMER Motors Reset |
| | | 130-139 | OTHER Motors Reset |
| | | 140-149 | ENABLE BLACKOUT WHILE PAN/TILT MOVEMENT |
| | | 150-159 | DISABLE BLACKOUT WHILE PAN/TILT MOVEMENT |
| | | 160-169 | ENABLE BLACKOUT WHILE COLOR WHEEL MOTOR MOVEMENT |
| | | 170-179 | DISABLE BLACKOUT WHILE COLOR WHEEL MOTOR MOVEMENT |
| | | 180-189 | ENABLE BLACKOUT WHILE GOBO WHEEL MOTOR MOVEMENT |
| | | 190-199 | DISABLE BLACKOUT WHILE GOBO WHEEL MOTOR MOVEMENT |
| | | 200-219 | RESET |
| | | 220-255 | NO FUNCTION |

## Extend 21Channel

| Channel | Value | Function |
|---|---|---|
| 1 | | **PAN** |
| | 0-255 | Pan Movement |
| 2 | | **PAN Fine** |
| | 0-255 | Pan movement Fine |
| 3 | | **Tilt** |
| | 0-255 | TILT Movement |
| 4 | | **Tilt Fine** |
| | 0-255 | Tilt movement Fine |
| 5 | | **PAN Speed** |
| | 0-7 | No function |
| | 8-255 | Pan shaking movement slow to fast |
| 6 | | **Tilt Speed** |
| | 0-7 | No function |
| | 8-255 | Tilt shaking movement slow to fast |
| 7 | | **Color** |
| | 0-2 | White |
| | 3-4 | White+color1 |
| | 5-6 | Color 1 |
| | 7-9 | Color 1+Color 2 |
| | 10-11 | Color 2 |
| | 12-13 | Color 2+Color 3 |
| | 14-15 | Color 3 |
| | 16-18 | Color 3+Color 4 |
| | 19-20 | Color 4 |
| | 21-22 | Color 4+Color 5 |
| | 23-24 | Color5 |
| | 25-27 | Color 5+Color 6 |

| | | |
|---|---|---|
| | 28-29 | Color 6 |
| | 30-31 | Color 6+Color 7 |
| | 32-33 | Color 7 |
| | 34-36 | Color 7+Color 8 |
| | 37-38 | Color 8 |
| | 39-40 | Color 8+Color 9 |
| | 41-43 | Color 9 |
| | 44-45 | Color 9+Color 10 |
| | 46-47 | Color 10 |
| | 48-49 | Color 10+Color 11 |
| | 50-52 | Color 11 |
| | 53-54 | Color 11+Color 12 |
| | 55-56 | Color 12 |
| | 57-58 | Color 12+Color 13 |
| | 59-61 | Color 13 |
| | 62-63 | Color 13+Color 14 |
| | 64-65 | Color 14 |
| | 66-67 | Color 14+White |
| | 68-128 | Color Wheel Index - WHITE to CONGO BLUE |
| | 129-190 | *Clockwise Color Rotation from FAST to SLOW |
| | 191-193 | STOP |
| | 194-255 | *Counterclockwise Color Rotation from SLOW to FAST |
| 8 | | **GOBOS** |
| | 0-7 | OPEN |
| | 8-14 | Gobo1 |
| | 15-22 | Gobo2 |
| | 23-29 | Gobo3 |
| | 30-37 | Gobo4 |
| | 38-44 | Gobo5 |
| | 45-52 | Gobo6 |

| | | |
|---|---|---|
| | 53-59 | Gobo7 |
| | 60-67 | Gobo8 |
| | 68-74 | Gobo9 |
| | 75-82 | Gobo10 |
| | 83-89 | Gobo11 |
| | 90-97 | Gobo12 |
| | 98-104 | Gobo13 |
| | 105-112 | Gobo14 |
| | 113-119 | Gobo15 |
| | 120-126 | Gobo16 |
| | 127-133 | Gobo17 |
| | 134-194 | *Clockwise Gobo Wheel Rotation From FAST to SLOW |
| | 195-255 | *Counterclockwise Gobo Wheel Rotation From SLOW to FAST |
| 9 | | **PATTERN MACROS** |
| | 0-8 | OFF |
| | 9-16 | Pattern Macro 1 |
| | 17-25 | Pattern Macro 2 |
| | 26-33 | Pattern Macro 3 |
| | 34-42 | Pattern Macro 4 |
| | 43-50 | Pattern Macro 5 |
| | 51-59 | Pattern Macro 6 |
| | 60-67 | Pattern Macro 7 |
| | 68-76 | Pattern Macro 8 |
| | 77-84 | Pattern Macro 9 |
| | 85-93 | Pattern Macro 10 |
| | 94-101 | Pattern Macro 11 |
| | 102-110 | Pattern Macro 12 |
| | 111-118 | Pattern Macro 13 |
| | 119-127 | Pattern Macro 14 |

| | | |
|---|---|---|
| | 128-135 | Pattern Macro 15 |
| | 136-144 | Pattern Macro 16 |
| | 145-152 | Pattern Macro 17 |
| | 153-161 | Pattern Macro 18 |
| | 162-169 | Pattern Macro 19 |
| | 170-178 | Pattern Macro 20 |
| | 179-186 | Pattern Macro 21 |
| | 187-195 | Pattern Macro 22 |
| | 196-203 | Pattern Macro 23 |
| | 204-212 | Pattern Macro 24 |
| | 213-220 | Pattern Macro 25 |
| | 221-229 | Pattern Macro 26 |
| | 230-237 | Pattern Macro 27 |
| | 238-246 | Pattern Macro 28 |
| | 247-255 | Pattern Macro 29 |
| 10 | | **PATTERN ROTATION - *CLOCKWISE / *COUNTERCLOCKWISE** |
| | 0-9 | Stop |
| | 10-120 | *Clockwise Pattern Rotation from FAST to SLOW |
| | 121-134 | Stop |
| | 135-245 | *Counterclockwise Pattern Rotation from SLOW to FAST |
| | 246-255 | Stop |
| 11 | | **PATTERN ROTATION - *HORIZONTAL / *VERTICAL** |
| | 0-9 | Stop |
| | 10-120 | *Horizontal Pattern Rotation from FAST to SLOW |
| | 121-134 | Stop |
| | 135-245 | *Vertical Pattern Rotation from SLOW to FAST |

| | | |
|---|---|---|
| | 246-255 | Stop |
| 12 | | **PATTERN ZOOM** |
| | 0-127 | Pattern ZOOM Manual |
| | 128-255 | Pattern ZOOM SLOW to FAST |
| 13 | | **PATTERN SCAN *CLOCKWISE MOVEMENT** |
| | 0-9 | Stop |
| | 10-120 | *Clockwise Pattern move to left |
| | 121-144 | Stop |
| | 145-255 | *Clockwise Pattern move to right |
| 14 | | **PATTERN SCAN *COUNTERCLOCKWISE MOVEMENT** |
| | 0-9 | Stop |
| | 10-120 | ***** Counterclockwise Pattern move to left |
| | 121-144 | Stop |
| | 145-255 | * Counterclockwise Pattern move to right |
| 15 | | **PATTERN SCAN** |
| | 0-127 | 0° to 360° |
| | 128-191 | *Clockwise Rotation FAST to SLOW |
| | 192-255 | *Counterclockwise Rotation SLOW to FAST |
| 16 | | **SHAKE** |
| | 0-7 | Stop |
| | 8-255 | Shaking speed from slow to fast |
| 17 | | **Prism** |
| | 0-255 | Prism |
| 18 | | **PRISM ROTATION** |
| | 0-127 | PRISM Indexing |
| | 128-191 | *Clockwise PRISM Rotation FAST to SLOW |
| | 192-255 | *Counterclockwise PRISM Rotation SLOW to FAST |
| 19 | | **DIMMER** |

| | | |
|---|---|---|
| | 0-255 | 0-100% dimmer |
| 20 | | **SHUTTER, STROBE** |
| | 0-7 | No function |
| | 8-255 | Strobe from slow to fast |
| 21 | | **FUNCTIONS** |
| | 0-39 | No function |
| | 40-59 | Lamp On |
| | 60-79 | Lamp Off |
| | 80-89 | ALL MOTORS Reset |
| | 90-99 | PAN / TILT Motors Reset |
| | 100-109 | COLOR Motor Reset |
| | 110-119 | GOBO Motor Reset |
| | 120-129 | SHUTTER & DIMMER Motors Reset |
| | 130-139 | OTHER Motors Reset |
| | 140-149 | ENABLE BLACKOUT WHILE PAN/TILT MOVEMENT |
| | 150-159 | DISABLE BLACKOUT WHILE PAN/TILT MOVEMENT |
| | 160-169 | ENABLE BLACKOUT WHILE COLOR WHEEL MOTOR MOVEMENT |
| | 170-179 | DISABLE BLACKOUT WHILE COLOR WHEEL MOTOR MOVEMENT |
| | 180-189 | ENABLE BLACKOUT WHILE GOBO WHEEL MOTOR MOVEMENT |
| | 190-199 | DISABLE BLACKOUT WHILE GOBO WHEEL MOTOR MOVEMENT |
| | 200-219 | RESET |
| | 220-255 | NO FUNCTION |

# 6 DIFFICULTY RESOLUTION

The following is a list of problems and resolution, and other malfunction preparing work should be professionally qualified staff to deal with.

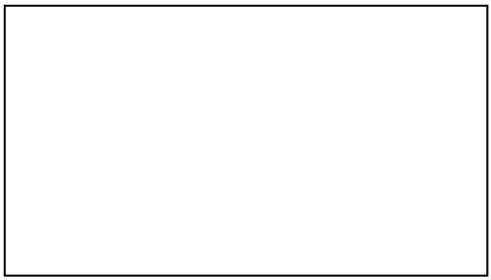
1. Bulb not working
    a) Check whether approaching the service life of light bulbs, then change it
    b) Check whether bulbs circuitry leak, loss or connect poorly
2. Beam appears bleak
    a) The bulbs maybe approach the service life, then change it, or the optical components are unclean.
    b) Bulbs have accumulation of dust, so the bulbs and other parts inside the lamp should be cleaned and maintained in regular period.
3. Computer lamp work intermittently
    a) Check whether the fan process naturally and become dirty
    b) Check inner temperature-response control plug is off
    c) Check whether the circuitry is good
4. The computer lamp not controlled by controller during lighting
    a) Check numeral starting address and the connection of communication control circuit
    b) The corresponding channel button of controller is open or not
    c) Check whether the fuse on power supply input jack is broken off

## 7 AFTER SERVICE

1. Our company offer technical consultation to customers for ever.
2. If the machine is wrong and need repairmen, please truthfully fill in the related content and feedback us the problems timely, as well as we have to improve the product.
3. In addition to the lamp, also matching accessories are as follows：

**accessories**：Power line 1 piece Optional parts：(customers）

## 8 LED Display Menu :



A:Function (Return)
B:Down
C:UP
D:Enter (Menu )

A B C D

# Warranty Card

| Name | Model | Production | Purchase |
|---|---|---|---|
| | | | |

| End User | Sale Store |
|---|---|
| Company Name: | Link man: |
| Add: | Tel: Stamp |

Description: These must be truthfully fill, seal by the end-user and point-of-sale, or else the warranty will not work (warranty period and terms, see the following)

warranty period：one year since purchase warranty terms：1、If fail when using the product in normal state, you can made under the provisions of the warranty, show the warranty card and purchase bills(copy), and enjoy free maintenance service in a specific service center or the manufacturer.

2. The following will be the implementation of paid service:

(1)Without the effective warranty card

(2)There’s blank, alter and no point-of-sale name

(3)Fail caused by unresistance

(4)Fail caused by transportation or unloading

(5)Fail caused by not operate by manual

(6)Fail caused by disassemble without unauthorized

(7)Fail caused by using the unauthorized control system

## Note:

Based on our company continue to improve the product, the statement containing data may have changed, and will not notice the change any more. Company retains its right to change specifications related when product is improved. Thanks for your understanding.